# THE VETERINARY RECORD

A Weekly Journal for the Profession.

No. 1016. DECEMBER 28, 1907. Vol. XX

### Prof. Penberthy on Tuberculosis.

On another page will be found two or three extracts from a lecture delivered by Prof. Penberthy before the Royal Institute of Public Health.

The whole paper is good, but the extract we make is important because it adduces evidence in favour of preventive legislation. We all now accept as proved the danger to infants of milk containing tubercle bacilli.

Prof. Penberthy shows by statistics that wherever the Dairies, Cowsheds, and Milkshops Order has been enforced, a material reduction in infant mortality results. This is a valuable and, we think, an original observation which should be driven home. Even if the explanation were controversial the fact remains as evidence of the benefits following legislation.

### An Odious Comparison.

At a recent meeting of the Cambridge Medical Society a discussion took place as to the best methods of teaching Hygiene to school teachers, so that they might be enabled to hand on to their pupils some elementary notions concerning healthy living.

Among the speakers was Prof. Clifford Allbutt, who said :—

"He favoured teaching in the shape of diagrams and demonstrations, which appealed to the eye, the object being to teach them the art of observing children from certain pathological points of view and thus to make them keen to note the weak points in their scholars. As an example of what he meant he instanced the fact that even trained anatomists and pathologists who were perfectly familiar with horses were at times forced to call in a "vet." (sic) who in his clear empirical way put his finger instantly on the defect which the skilled anatomist had been unable to detect. That sort of instinct or empirical knowledge in regard to children was what teachers ought to have, and they could acquire it if quick-witted without being taught much medical science."

Provided the report which appeared in *The British Medical Journal* is correct, we think the veterinary practitioner has a grievance against Prof. Clifford Allbutt. There is no point in his illustration unless we accept the unflattering inference that he supposes veterinary surgeons to be destitute of anatomical and pathological training, and that our diagnosis is based upon a "sort of instinct or empirical knowledge."

Prof. Clifford Allbutt is a prominent if not eminent member of the medical profession, and his opinion of the veterinarian's claim to be a scientific man is unfair and untrue. If this is the opinion in high quarters, what is the estimate formed by the average medical man?

Perhaps a public statement of this sort does not much matter. It may be due to ignorance, or it may be due to a weakness in the professor's power of expression. Anyway it is incorrect, and not a little disappointing after our 30 year's struggle to educate ourselves to a scientific standard.

There are at least four fundamental errors in the extract that we take from Prof. Clifford Allbutt's speech :

(1) That a trained anatomist and pathologist was ever perfectly familiar with horses.
(2) That medical men are usually trained anatomists and pathologists.
(3) That diagnosis by "vets," is only based upon a sort of instinct or empirical knowledge.
(4) That "vets." are ignorant of anatomy and pathology.

Really he ought to apologise or explain.

### 1907-8.

We tender our readers the compliments of the season, and our best wishes for the coming year. It is natural also, just now, to indulge in some retrospect and forecast, and both alike, as far as our professional progess is concerned, are pleasant.

In one respect the closing year has been very momentous for the profession, and the coming one will be even more so. The new Veterinary Surgeons' Act, which a few months ago was still in the speculative stage, is now adopted by the Council with the approval of the profession, and the next Parliamentary Session will determine its fate in the House This alone, should it become law, will stamp the year 1908 in our annals as only second in importance to 1844, but the inception of the Act in 1907 is by no means the only advance we have made.

In many varied directions, our body corporate may be congratulated upon a year of steady progress. Our public influence is increasing, and coincidently our sphere of usefulness is extending. The number of public appointments open to our graduates, at home and abroad, continues to increase, while hints have been dropped from high quarters which warrant the expectation that those at home may soon assume such proportions as to strain, for a time, the numerical strength of the profession. Our teaching authorities have long foreseen this, and by training present students and old graduates in sanitary science, are preparing us for the position in the State which we ought to occupy and hope soon to gain.

On the other hand private practice, despite the establishment of motor and electric traction, continues to yield a living to those who follow it, and there is no fear that it will cease to do so. Far from that, we may expect that the increasing recognition of veterinary knowledge by the State will indirectly improve both the social and financial position of the private practitioner.

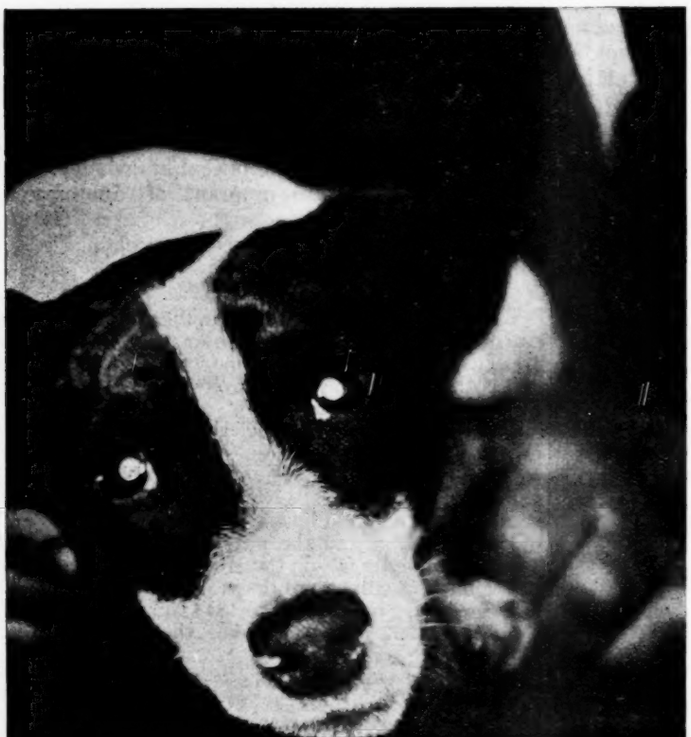
Lastly, we may note the frequent evidence our professional discussions afford, of the calibre of the men within our ranks. Our prospects would be dark at the present moment if we were a body of mere licensed empirics ; for the position we shall take within the next few years depends upon our own general standard of scientific knowledge. Happily, we have abundant proof that the profession contains many men who will be found fully equal to the increasing responsibilities of the near future.

## SOFT CATARACT IN A TERRIER—OPERATION.

A six-months-old terrier pup with a cataract affecting each eye and causing complete opacity of the lenses and total blindness.

The history of the case was that three months ago it was noticed that one eye was "greyish white" the other becoming affected a month ago.

The photograph of the case was taken in a room, far from the window in order, as far as possible, to avoid reflexions from the cornea.



The pupil had not then been dilated but this was subsequently done for two days prior to the operation with 1 per cent solution of Atropine Sulphate. The patient of course being kept in a dark kennel.

The operation was by discission. The patient was chloroformed and the eye treated with Chinosol solution, then with a fine cataract needle the cornea was punctured and an incision in the form of a cross was made in the capsule of the lens. The cataract was so soft that a white milky substance exuded from the incisions into the aqueous humour.

Twenty-seven days after the operation the terrier ran fairly well, avoiding obstacles. The right eye showed a T shaped scar of the lens. The left eye had a large rosette-shaped cataract in the centre of the lens. Another operation was performed on this eye 31 days after the first, though I think that one would have been sufficient. After each operation the treatment was by using Atropine as before the operation. I had an operation about this time so kept no after record, but the case was brought up to my room once, and the eyes were nearly clear. He was afterwards sold, and the owner said that the eye had completely cleared.

W. H. Flook, F.R.C.V.S.

## THE SWINEY LECTURES.*

### HORSES OF THE PAST AND PRESENT.

### III.

Had one taken part in a hunting expedition from the Eastern to the Western borders of France, about the end of the Palaeolithic Period, he would in all probability have had the chance of capturing various kinds of horses, including; (1) the very large-headed, but somewhat slender limbed, species we associate with the Reindeer Hunters; (2) the stoutly built, coarse limbed one we connect with Salutre; and (3) that fine Arab-like headed creature, figured in the Combarelle Cave.

At the end of last century, it was generally thought that all horses living under domestication, belonged to a single species called Equus caballus: many assuming it had two varieties—an Eastern or Oriental, and a Western or Occidental. The Oriental, which included lightly built, slender-limbed forms, of the Arab type were supposed to have sprung from Equus sivalensis of the Indian Pliocene. The Occidental, characterised by a large head and coarse limbs, from Equus caballus fossilis: a species, in Pleistocene times widely distributed in Europe, Asia, and North Africa. Equus caballus fossilis was regarded as a descendant of the Pliocene species Equus stenonis—believed, by some, to be identical with the above Equus sivaleusis. More than once during the present decade, the opinion has been expressed that in the wild horse recently discovered in Central Asia, named after the Russian traveller Prejvalsky, we have a lineal, and hardly if at all modified descendant of Equus caballus fossilis, the wild horse of Europe during the Stone Age.

During Century XII. there were, according to some writers, wild horses in Pomerania and Selesia. They seem to have lived in Westphalia during Century XIV., and in the Vosjez at the end of Century XVI.; whilst horses, said to be wild, were hunted in Poland and Lithuania well into Century XVII.

About the "wild" horses of Europe during the Middle Ages very little is known. In North-Western Europe they were, it is said, "all remarkable for an intelligent but malicious character, broad foreheads, strong lower jaws, heavy manes, great

* The first of these digests of leetures by Prof. J. Cossar Ewart, M.D., F.R.S., appeared in our issue of the 14th inst.

forelocks, long bushy tails, robust bodies, and strong limbs, with a livery in general pale dun, yellowish brown, a streak along the spine and cross bars on the limbs."

The mouse dun horse of the Russian Steppes—commonly known as the Tarpan—was up to 1881, when Prejvalsky's horse was discovered, regarded by some as a true wild horse; by others as the last survivor of the deluvial wild horse of Europe, somewhat modified by an infusion of domestic blood. In some of these Tarpans the head was large, the mane semi-erect, and the tail somewhat mule-like; while in others the head was Arab-like, the mane long and flowing, and the tail furnished with long hair up to the root. From this great variation it might have been inferred—as Nehring realised—that it did not form a true wild species, which Professor Cossar Ewart has established, by producing mouse-dun horses closely resembling the Tarpan, by crossing Shetland and Welsh ponies.

Linnaens, whilst admitting that the wild horses of the Don had probably sprung from the domestic horses which escaped at the seige of Azov in 1697, held that true wild horses survived in Bessarabia and in Tartary, which extended from the Caspian Sea to the Gobi Desert. They may or may not have existed in Bessarabia at the beginning of last century, but they certainly did in Tartary.

Though the wild horse recently named Equus Prejvalskii has doubtless been under observation since the Stone Age, and in 1841 Colonel Hamilton Smith gave a fairly accurate description of the wild horse of Central Asia, from information gathered from Russian officers he met in Paris during its occupation by the Allies in 1814, very little was known of its structure, habits or affinities until Poliakof published his account in 1881. Neither this nor Saleusky's monograph issued in 1902, satisfied European naturalists that it was a valid species. Some thought it a chance hybrid between an escaped Mongolim and a Kiang. Others, that it was only a domestic horse "down of its luck," by a trying life amongst the foothills or lower heights of the Altai Mountains. Now, however, that specimens have been bred by the Duke of Bedford, at Woburn, its right to be regarded as a true wild species is seldom questioned.

If the horses now domesticated have all sprung from a single wild species widely distributed during the Stone Age, it is extremely probable that it was closely related to, if not identical with Prejvalsky's. Already many who think all domestic horses have sprung from Equus caballus fossilis, have stated they regard Prejvalsky's as identical with the large headed wild horse hunted in the Reindeer Period. All they now seek are the links by which, during prehistoric and recent times, the descendants of Equus caballis fossilis—of which Prejvalsky's is the living representative—gave rise to Arabs, Barbs, Thoroughbreds, Shires, Clydesdales and other breeds.

Those who believe horses have sprung from several wild species, domesticated at different times and in different areas, have to decide to which of several Pleistocene species Prejvalsky's is most nearly related, and the part it has taken in forming the breeds of ancient and modern times.

All admit that a large-headed species lived in Europe during the Stone Age. Have we in Prejvalsky's wild horse a survivor of this Pleistocene species?

In 1904 Dr. Cossar Ewart pointed out that the engraving from the Palæolithic station of La Mouthe was a fairly accurate representation of the head of Prejvalsky's horse. In November, 1906, he stated that an engraving from the cave at La Madeleine emphasised the chief points of Prejvalsky's horse better than any drawings or photographs of specimens recently imported from Mongolia. About the same time Professor Trouessart, of Paris, came to the same conclusion. This distinguished zoologist, as Dr. Cossar Ewart calls him, published in 1906 a figure representing a statuette of an adult male Prejvalsky horse by Mons. Berthier, together with a figure of a Quarternary horse from an engraving on a piece of reindeer horn found in the Madeleine cave; and pointed out the close similarity. He shows how the characters of the species and even the points of the race are plainly brought out by both artists. The characteric pose, the heaviness of the head, protrusion of the jaw, form of the mane and tail being as faithfully rendered by the primitive man of the Stone Age as by the ten-talented artist of the twentieth century. All must agree with Prof. Trouessart that it is hardly possible that the two animals, separated in time by thousands of years, have, simply by chance, assumed the same attitude; or that these two artists should have reproduced it so faithfully. Only one fact can account for this: the two animals belong to the same species.

If on further enquiry it is proved that Prejvalsky's horse is the living representative of one of the wild species from which domestic breeds have sprung, the wild horses recently imported from Mongolia—though not appealing to the multitude like the gaily striped zebras—will receive increased attention from those interested in the history of the horse.

## ABSTRACTS FROM FOREIGN JOURNALS.

THE CONSUMPTION OF HORSE FLESH IN PARIS.—By H. C. WILKIE, F.R.C.V.S., F.Z.S.

The following particulars are extracted from the last report of Monsieur Martel, of the Veterinary Service of the Department of the Seine, which deals with the state of the consumption of horse flesh as human food during the year ending December 31st, 1906, in Paris and the immediate surroundings. At the date of the report there were 299 retail horse flesh butchers within the City of Paris, and 141 in its suburbs. The prices obtained are notably lower than those for any other kind of meat, though a filet is, however, worth from one shilling and eightpence to two shillings the kilogramme, 1·020 kilos being equal to 2¼ lbs.

A steak varies in price from sixpence to one shilling and fivepence per kilogramme. All slaughtering is carried out at the special horse abattoirs, of

which there are two. These are under veterinary supervision.

During the year 57,734 horses were slaughtered at these abattoirs, and of these 1,853 were wholly condemned as unfit for human consumption.

From one abattoir 89,000 kilogrammes of horse flesh were delivered to l'assistance publique.

Half the horses taken to the abattoirs are stated to be affected with pulmonary emphysema.

As showing the increase in the usage of horse flesh, the following figures are given:

*Equine Animals Slaughtered for Food.*

| | Horse. | Ass. | Mule. |
|---|---|---|---|
| 1887. | 16,282 | 284 | 22 |
| 1906. | 57,734 | 822 | 223 |

Some interesting particulars as to the value of horse carcases is given by Monsieur Villian, of the Municipal Veterinary Service.

A horse weighing 500 kilogrammes (omnibus horse type) furnishes 60 per cent. of its weight of meat. If one deducts 20 kilogrammes for a possible loss of weight before slaughter, this gives $480 \times 60/100 = 288$ kilogrammes. This, at an average price of sevenpence halfpenny per kilogramme brings the value of the flesh to about £8 11s. 8d. The hide is worth usually eight shillings. The offal and hair is estimated to be worth nearly six sblllings.

These minimum estimates give a total value of £9 5s., and should be "sufficient to prevent the barbarous custom of making horses work until they die in the streets, in which case for boiling down they are almost without value."

The boiling down works are three in number, at Ivry, Saint Denis, and Aubervilliers, and to these places 6,000 horses were consigned in the year 1906.

Horse meat is stated to have an agreeable taste, and when roast to be indistinguishable from beef. When boiled the peculiar taste of the fat is likened to that of the goose. Monsieur Villian states that horse fat is used in certain restaurants to finish mayonnaise sauces with a delicate flavour. One of the common uses of horse fat is for the cooking of fried potatoes.

rue St. Honoré 211, Paris.

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A Singular Lameness in a Horse. — By E. Huynen.

A horse at pasture was found to have sustained wounds of the right hind limb, in the regions of the tibia, hock, and cannon. These wounds, which were only superficial, healed rapidly, and even the cicatrices disappeared.

Since the accident, the horse had been lame upon the injured limb, and this was at first attributed to the pain produced by the wounds. But, whilst the wounds healed regularly, the lameness, instead of diminishing, slowly but continuously increased.

Three months after the accident the animal came into hospital presenting the following symptoms.

At rest the limb only rested upon the ground by the toe, and from time to time was abruptly flexed and lifted, as if the horse felt lancinating pains in the lower part of the leg. These movements of flexion were very sudden, and resembled the abrupt mechanical movement which can be produced at will upon a detached hock joint.

During progression the hip sank exceedingly, and the limb scarcely bore weight for a moment. Such weight as was borne was almost completely upon the anterior part of the foot, the phalanges not being extended upon the cannon.

The inferior extremity of the limb was free from visible lesion, but devoid of sensation below the level of the upper third of the cannon. The muscles of the tibial region, both anterior and posterior, were excessively atrophied, almost reducing that part of the limb to the condition of a skeleton. The upper extremity of the limb was also atrophied, but much less so. On the other hand there was no loss of sensation in the atrophied regions, nor in the vicinity of the hock.

The author was unable to base a satisfactory diagnosis upon these symptoms, which had developed slowly. The loss of sensation in the lower part of the limb, and the atrophy of the posterior tibial muscles, suggested a lesion of the great sciatic nerve at a point at least as high as the stifle joint. This, however, would not explain the atrophy of the anterior tibial muscles, which derive both their motor and sensory nervous supply from the external popliteal nerve. As the latter is detached from the great sciatic in the superior femoral region, it would be necessary to either locate the injury there, or admit simultaneous lesions of the two nerves. Even the admission of this not very probable coincidence would still leave the preservation of sensation in the tarsal and anterior tibial region inexplicable, except by the hypothesis of "systematic" lesions of the external popliteal nerve. A lesion of one nerve alone failed to explain the case, and the author was at a loss to deduce the co-existing lesion.

Treatment was considered economically inadvisable, and the author was therefore able to perform an autopsy. This revealed very diverse lesions, due to the same cause, and completely explaining all the symptoms.

The fibula was fractured at the tibio-fibular arch, and the fractured extremities deviated towards the tibia, seriously compressing the contents of the arch, especially the anterior tibial artery.

The muscles of the posterior tibial region had undergone dry necrosis, were of the colour of cooked meat, and crumbled in the hand. Old hæmorrhages were very clearly discernable in two places.

The anterior tibial muscles showed neither necrosis or hæmorrhages, but had become sclerosed and fibrous.

The anterior tibial artery, from the tibio-fibular arch, was almost completely obliterated, its lumen scarcely admitting the point of a sewing needle.

The external popliteal nerve was normal. Upon the course of the great sciatic nerve, in its passage between the fleshy bellies of the gastrocnemius muscle, was a very evident lesion, viz., a hard growth of the size of the thumb.

Microscopical examination of sections cut above, through, and below this tumour, showed that it completely cut off nervous conduction.

Three centimetres above the tumour, the nerve appeared perfectly healthy, the various elements of nervous tissues being quite normal under the microscope.

As the sections approached the tumour, an abnormal multiplication of connective tissue elements upon the internal aspect of the perineurium was perceptible. This connective tissue more and more invaded the nervous tissue, which correspondingly diminished till sections cut through the tumour showed only connective tissue riddled with irregular openings, in which a more or less intact nervous filament was occasionally found. Sections cut below the tumour showed all the nervous filaments completely overrun by connective tissue, no trace of nerve tubes remaining.

The author attributes all these clinical symptoms and post mortem lesions to one cause, viz., a violent contusion upon the upper part of the posterior and external aspects of the leg. In the posterior region this had produced: (1) Hæmorrhage, sanguineous infiltration of the muscles, and their consequent necrosis. (2) The nervous lesion, which had abolished sensation in the lower part of the limb. In the external region it had produced the fracture of the fibula, the consequent obliteration of the anterior tibial artery, and the atrophy of the anterior muscles—the latter lesion, of course, being caused by defective nutrition resulting from the arterial obliteration.

The author ascribes the sudden movements of flexion noted above to pain produced by muscular ischæmia.—*Annales de Médecine Vétérinaire*, Nov., 1907. W. R. C.

## Royal College of Veterinary Surgeons.

### EXAMINATIONS IN LONDON.

At a meeting of the Board of Examiners held on December 11th for the written, and on and between December 16th and 20th inclusive for the oral and practical examinations, the following gentlemen passed the final examination :—

| | |
|---|---|
| Mr. E. H. Brogan | Mr. P. J. O'Brien |
| C. M. Barton | A. E. Roberts |
| W. F. L. Bright | D. H. Rylands |
| L. B. Cole | T. W. Smith |
| L. A. F. Dawson | G. Scade * |
| R. Gooderidge | G. Tillyard |
| H. M. Holland | H. W. Townson |
| B. A. Jarvis | A. E. Webber |
| J. H. G. Jerrom | J. S. Young |
| W. Jones | G. Yates |
| H. Morphew | |

The following passed the third examination :—

| | |
|---|---|
| Mr. D. Anderson | Mr. H. V. Dier † |
| C. S. Addison * | J. N. Glass |
| J. D. Broome * | S. Head |
| J. B. Buxton | G. L. Y. Ingram |
| T. A. B. Cocksedge | E. Middleton |
| G. W. Dunkin | H. B. Nixon |

The following passed the second examination :—

| | |
|---|---|
| Mr. R. M. Aulton | Mr. O. F. Maynard |
| B. R. Body * | R. Moore |
| H. C. D. Golledge * | P. R. A. Thrale |
| W. D. Jordan | P. R. Thompson † |
| W. D. John * | R. Wooff |
| L. H. Leach | |

The following passed the first examination :—

| | |
|---|---|
| Mr. F. E. Heath | Mr. G. Warner |
| J. M. Power | S. H. L. Woods |
| W. F. Poulton | |

Marked thus † passed with First Class Honours.
" " * " " Second Class "

FRED BULLOCK, *Secretary.*

## "SOME SUGGESTIONS ON THE CONTROL OF SWINE FEVER."*

By J. S. LLOYD, F.R.C.V.S., D.V.S.M. Vict., Chief Veterinary Inspector, Sheffield.

(*Continued from p. 436*)

SUGGESTIONS FOR THE CONTROL OF SWINE FEVER.

In offering any suggestions for the control of swine fever, it must not be thought that the veterinary profession condemns altogether the policy of the Board in the past. Most members of the profession recognise the difficulties such a disease as swine fever presents, and which have to be tackled and surmounted before any measure of success can be hoped for; and in presenting the suggestions which follow for discussion at this meeting of veterinary surgeons, it is with the hope and trust that the result of the discussion which ensues will be some tangible suggestions which can be sent to the Board for their acceptance or rejection, but with every desire to assist the Board in its difficult battle with swine fever. At the same time, any suggestions or line of action agreed upon ought to be forwarded to the different chambers of agriculture and to the editors of agricultural journals. In this way the matter will be well thrashed out, and no doubt other suggestions made, and it is hoped that out of the multitude of counsellors there will come wisdom.

To sum up the situation very shortly, it appears to the writer, judging from his investigations into the policy of the Board and his experience as chief veterinary inspector of a large city where there is a considerable pig population, and where he has complete control of all executive work done under the Diseases of Animals Acts, including inspectorial work under the Swine Fever Orders and supervision of all regulations relating to the movement of swine, that some action on the following lines will have to be taken before success can be looked for in dealing with the control of swine fever :—

(1) The addition of an article in the Swine Fever Order of 1894 providing for the presumption of knowledge of disease (swine fever) on the part of owners of swine, similar to that in the Anthrax Order of 1899. This would probably have the effect of earlier notification of suspected cases of swine fever, and would lead owners of swine to call in veterinary assistance when they have pigs which are not healthy, or appear to be unthrifty.

(2) Compulsory notification by veterinary surgeons, with payment by central authority of a small notification fee. This would assist the Board by preventing owners of pigs getting rid of their pigs after being informed of suspicious cases by their veterinary advisers and would prevent wilful concealment in such cases.

* Paper read at a meeting of the Lancashire Veterinary Medical Society, at Manchester, on December 5, 1907.

(3) Compulsory slaughter of all diseased and incontact pigs on infected premises, with compensation payable by the Board. The Board now occasionally isolates for three months, but the writer thinks no pigs ought to be moved alive from such premises.

(4) Complete disinfection of infected premises—destruction by burning, if necessary—by properly qualified officers of local authorities. This is now done by the occupiers of the premises, under the supervision of the lay inspectors of the Board. The writer thinks this work would be done more completely by men specially qualified by experience to do the work, the cost to be paid by the Board.

(5) Stoppage of further occupation of infected premises by swine for at least four months. It is well known that fresh fuel keeps up a fire, and fresh swine on a recently infected place are very likely to become affected, provided there is any infection about, and thus keep the disease alive.

(6) Formation of infected circle around each infected place. This need not be large, but should include all swine, say, within a radius of 400 yards. It should be done by posting up an order and serving a copy on each occupier, prohibiting movement, stating the infected premises, and warning off trespassers. It should be kept on for at least two months after the date of the last outbreak in the circle, and should only be withdrawn after a special veterinary inspection has been made of all pigs within the circle and a report to the effect that the pigs are healthy. It should not prevent movement of pigs or carcases to a slaughterhouse or dwelling-house with a licence.

(7) Formation of infected area where numerous outbreaks occur in a comparatively small area. This is now done by the Board, and ought to be continued on the same lines as at present.

(8) Repeal of the Swine Fever (Regulation of Movement( Order of 1903, and formation of an order prohibiting movements of swine generally throughout the country except by licence. The latter should be granted on certain simple, uniform and easily applied conditions. The writer thinks the period of detention should be extended to fifty-six days in the case of store pigs, as he is convinced from experience of actual outbreaks that twenty-eight days is too short a period to prevent the introduction of swine fever to premises previously free from disease. (A draft form of suggested Swine Fever (General Movement) Order is printed at the end of this paper.)

(9) A complete register of all licenses issued to be kept by local authorities, and all declarations and movement licenses to be kept for at least six months before being destroyed. By these means all legal movements of swine in any particular district could be easily traced for a period of at least six months and would be of immense value in tracing back the origin of swine fever outbreaks.

(10) Registration by local authorities of all pig-dealers in their disericts. Only men of good character, with clean and properly constructed piggeries should be registered, and commission of any offence against Swine Fever Orders or Regulations should warrant withdrawal of the registration.

(11) Licensing by local authorities of all fairs, markets, sales, lairs, saleyards, or exhibitions. All movements of pigs, to or from to be by license in accordance with the Swine Fever (General Movement) Order.

(12) Regular, systematic and complete disinfection of all markets, fairs, saleyards, lairs, etc., to be carried out by officers of the local authorities at the expense of the owners, lessees or occupiers, as the case may be.

(13) Compulsory and regular inspection of all markets, lairs, etc., by the properly appointed veterinary inspectors to the local authorities.

No doubt it will appear to many that considerable hardship and inconvenience would ensue if general restrictions and regulations on the lines suggested above were enforced. The writer would only answer in reply, that no contagious disease of animals ever known has so far been eradicated without someone having to suffer —*e.g.*, rabies as the latest disease stamped out—and surely it is better to put up with some temporary inconvenience if there is any likelihood of deriving a permanent benefit thereby.

The mistaken policy of the Board in the past seems to have arisen chiefly from a desire to please everybody. It cannot be done with success. The result during the last two years has been to increase the outbreaks of swine fever and to decrease the number of pigs, at the same time spending yearly about £50,000 of public money.

*Draft Form of Suggested Swine Fever (General Movement) Order.*

NUMBER ( ).

ORDER OF THE BOARD OF AGRICULTURE AND FISHERIES.

(*Dated* 190 ).

SWINE FEVER (GENERAL MOVEMENT) ORDER OF 190 .

The Board of Agriculture and Fisheries, by virtue and in exercise of the powers vested in them under the Diseases of Animals Acts, 1894 to 1903, and of every other power enabling them in this behalf, do order, and it is hereby ordered, as follows:—

1.—APPLICATION OF ORDER.

This Order shall apply to the movement of swine in all parts of Great Britain, except in regard to movement to or from premises declared an infected place, in an infected circle, or in an infected area.

2.—RESTRICTION ON MOVEMENT.

Swine, with the exceptions mentioned above, shall not be moved in any part of Great Britain except in accordance with this Order.

3.—PROVISION FOR MOVEMENT WITH LICENCE.

(1) Swine may be moved from any premises to any other premises in Great Britain if accompanied by a licence authorising such movement, granted by an inspector of the local authority of the district in which the place of destination specified in the licence is situate.

(2) Before a licence is granted by an inspector under this Article, the owner of the swine, or his agent authorised in writing for this purpose, shall sign, and deliver or send by post to the inspector, a declaration, countersigned as hereinafter provided, to the effect:

(i.) That he is the owner or [*or* the agent authorised in writing for this purpose by the owner of] the swine;

(ii.) That the swine have been on the premises from which they are to be moved for a period of at least fifty-six days immediately before the date of the declaration;

(iii.) That to the best of his knowledge and belief the swine are in good health, and are not affected with swine fever, and have not during the period of fifty-six days, as aforesaid, been in any way exposed to the infection of swine fever;

(iv.) That the swine are not in a swine fever infected place, infected circle, or infected area, and that the movement of swine is not prohibited by notice of an inspector of a local authority or of the Board given under any Order of the Board.

(3) The declaration as to swine to be moved shall not be effective until it is countersigned by a police officer of the district where the swine are, who, before counter-

signing the declaration, shall, so far as is practicable, satisfy himself as to the correctness of the statements contained therein.

(4) The declaration shall be retained by the inspector granting the licence thereon.

(5) The licence shall be in force for six days, inclusive of the day of issue, and shall specify the name and address of the person to whom the licence is granted, the number of the swine to be moved, and the name or description of the place from which, and the place and premises to which, the swine are to be moved.

4.—Detention and Isolation after Arrival at Destination.

(1) Swine moved with a licence under the preceding Article shall not, for a period of fifty-six days after arrival at the place of destination specified in the licence, be moved from such place of destination, except as hereinafter provided. The swine, while detained under this Article, shall be kept separate from all other swine. This provision does not restrict the removal of any carcase of a pig.

(2) (i.) Where swine are moved with a licence under the preceding Article to a market, fair, sale yard, or exhibition specified in the licence, the swine shall only be moved from such premises if accompanied by a licence authorising such movement granted by an inspector of the local authority of the district in which the market, fair, saleyard, or exhibition is situate. The licence shall state the name and address of the person who moved the swine into the market or saleyard, and the number and description of the swine to be moved, and shall contain a description of the market or saleyard from which, and of the premises to which, the swine are to be moved.

(ii.) The swine shall be moved to the place of destination specified in the licence and not elsewhere, and shall be there detained and isolated from other swine for fifty-six days, unless they are slaughtered on such premises before the expiration of that period, or unless they are again moved as hereinafter provided. During the movement the swine shall so far as is practicable be kept separate from all swine not being moved with a licence under this Article.

(iii.) A copy of a licence granted under this Article shall be sent by the inspector granting the same to the local authority of the district in which is situate the place of destination specified in the licence.

(iv.) After completion of the movement the licence forthwith be delivered up at, or sent by post to, the nearest police station in the same district by the person in charge of the swine at the time of completing such movement.

(3) (i.) Where swine are moved under this Article to a private premises (not being a lair, market, saleyard, or fair), if such swine have been isolated in accordance with Section (1) of this Article such swine may at any time be moved to a market, fair, saleyard, or exhibition, if accompanied by a licence, authorising such movement, granted by an inspector of the local authority of the district in which such private premises are situate. Before a licence is granted by an inspector under this Article, the owner of the swine, or his agent authorised in writing for this purpose, shall sign, and deliver or send by post to the inspector, a declaration countersigned as hereinafter provided, to the effect.

(*a*) That he is the owner of (or the agent authorised in writing for this purpose by the owner of) the swine.

(*b*) That such swine have been on the premises from which they are to be moved for a period of days immediately preceding the date of declaration.

(*c*) That such swine are in good health, and not affected with swine fever, and have not, during the aforesaid period of days, been in any way exposed to the infection of swine fever.

(*d*) That the movement of such swine is not prohibited by notice from an inspector of the Board of Agriculture, or an inspector of the local authority.

(ii.) Such swine shall only be moved from such market, fair, sale, or exhibition, with a licence granted in accordance with Section (2) of this Article, and only to the premises from which they had been previously moved to such market, fair, or sale; or to a bacon factory or slaughterhouse specified in the licence, where the swine after their arrival shall be detained until they are slaughtered.

(iii.) A copy of a licence for movement from a market, fair, saleyard, or exhibition, shall be sent by the inspector granting the same to the local authority of the district in which is situate the destination, bacon factory, or slaughterhouse specified in the licence.

(4) Where swine are moved to a private premises in accordance with this article such swine may at any time be moved from such premises to any other premises for breeding purposes if accompanied by a licence granted in accordance with Section (3) of this Article. Such licence shall give the name of the owner of the swine to be moved, and the description of the premises from which and to which the swine are to be moved; it shall be available for three days, and shall also apply to the return journey.

5.—Movement for Immediate Slaughter.

(1) Swine may be moved from any premises to a bacon factory or slaughterhouse, or to any lair, market, or saleyard specially authorised to be used for such purpose by the local authority of the district, if accompanied by a licence authorising such movement granted by an inspector of the local authority of the district in which the bacon factory, slaughterhouse, lair, market, or saleyard shall be situate, and subject to the following conditions, namely:—

(i.) The swine shall be marked by and at the expense of the owner by the painting which an indelible composition of red colour of a broad line down the back, and another broad line across the loins of each of the swine, thus +, each line being not less than 9 inches long;

(ii.) The swine, shall, so far as is practicable, be moved by railway, and during such movement shall not be permitted to come in contact with swine not marked under this Article;

(iii.) Swine moved under this Article to any lair, market, or saleyard shall only be moved therefrom if accompanied by a licence authorising such movement granted by an inspector of the local authority of the district in which the lair, market, or saleyard shall be situate, and only to a bacon factory or slaughterhouse specified in the licence, and such movement shall be subject to the conditions of this Article as to marking and movement; and

(iv.) Swine moved under this Article to a bacon factory or slaughterhouse shall after their arrival thereat be there detained until they are slaughtered.

(v.) A copy of every special authority for the use of any lair, market, or saleyard shall be forthwith

sent to the Board by the local authority granting the authority.

(vi.) A copy of a licence granted under Section (1) (iii.) of this Article shall be sent by the inspector granting the same to the local authority of the district in which is situate the place of destination specified in the licence.

(2) In the case of swine consigned from Ireland to any bacon factory, slaughterhouse, lair, market, or saleyard in Great Britain, the licence authorising such movement required by this Article shall be a licence signed by an inspector or other officer duly authorised in that behalf by the Department of Agriculture and Technical Instruction for Ireland.

(3) For the purposes of this Article the expressions "market" and "saleyard" shall include "part of a market" and "part of a saleyard."

6.—Cleansing and Disinfection of Lairs, Markets and Saleyards.

(1) Any lairs, market, or saleyard used for the purposes of the preceding Articles shall, as soon as practicable after being used for such purposes, and before being again so used, be cleansed and disinfected as follows:

(i.) The premises shall be thoroughly scraped or swept, and such parts thereof as permit of the same thing being effectually cleansed by washing shall be so cleansed;

(ii.) After such cleansing the premises shall be thoroughly sprinkled with a solution of carbolic acid and limewash, containing not less than 5 per cent. of actual carbolic or cresylic acid;

(iii.) All pens, hurdles, and fittings used in connection with the market or sale shall, as soon as practicable after being used for such purpose, and before being again so used, be cleansed by scraping and washing, and after such cleansing shall be thoroughly sprinkled with a solution of carbolic acid and limewash as prescribed above; and

(iv.) The scrapings and sweepings shall forthwith be well mixed with quicklime and be effectually removed from contact with animals.

(2) The cleansing and disinfection required by this Article shall, in the case of any lair, market or saleyard in the occupation of any person, be carried out by that person, and in any other case be carried out by the local authority of the district.

(3) The Board may, by licence, modify the requirements of this Article in respect of any lair, market, or saleyard.

7.—Movement Between the Districts of Two Local Authorities.

In the case of swine moved with a licence under Article 5 of this Order from any market, fair, saleyard, exhibition, or lair to a bacon factory or slaughterhouse in the district of another local authority, no licence shall be required to be granted by an inspector of the local authority of the district in which the bacon factory or slaughterhouse is situate authorising the movement into such last-mentioned district, but a copy of the licence shall be sent as provided for in Article 5 (1) (vi.) of this Order.

8.—Licences After Completion of Movement.

(1) Where swine are moved with a licence under this Order to any market, fair, saleyard, exhibition, or lair, the licence shall be delivered up in exchange for the licence for movement of the swine from such premises.

(2) Where swine are moved with a licence under this Order to any premises other than a market, fair, saleyard, exhibition, or lair, the licence shall forthwith after completion of the movement be delivered up at, or sent by post to, the nearest police station in the same district by the person in charge of the swine at the time of completing the said movement.

9.—General Provisions as to Movement.

(1) Swine, while being moved under this Order, shall, so far as is practicable, be kept separate from all other swine, and shall be moved by the nearest available route and without unnecessary delay to the place of destination specified in the licence, and not elsewhere.

(2) This Order does not authorise movement of swine in a swine-fever infected place, or in or through a swine fever infected circle or swine-fever infected area, or of swine the movement of which is prohibited by any other Order of the Board or by notice of an inspector of a local authority or of the Board given under any such Order.

10.—Provisions as to Local Regulations.

Regulations made by the local authority of any district as to movement into or within their district shall not apply to any movement of swine regulated under this Order; but the movement of swine under this Order is subject to all other regulations made by a local authority under any Order of the Board for prohibiting or regulating the movement of swine.

11.—Provision for Movement through Infected Area or Circle.

For the purposes of this Order, swine shall not be deemed to be moved into an infected area or infected circle in any case where they are moved through such area or circle by railway from a place outside the area or circle to another place outside the area or circle without unnecessary delay and without the swine being untrucked or re-booked within the area or circle.

12.—Provision for Movement of Irish swine through Infected Area.

Swine landed in an infected area shall not for the purposes of this Order be deemed to be moved into such area, if they are consigned from Ireland to a place of destination outside the infected area, but swine so landed shall be moved from the landing-place forthwith by the most direct route to the nearest available railway station from which the swine can be moved to the place of destination to which they are so consigned, and forthwith moved by railway out of the infected area to their place of destination.

13.—Production of Licences: Names and Addresses.

(1) Any person in charge of a pig being moved, where under this Order a licence is necessary, shall, on demand of a Justice, or of a constable, or of an inspector or other officer of the Board or of a local authority, produce and show to him the licence, if any, authorising the movement, and shall allow it to be read and a copy of or extract from it to be taken by the person to whom it is produced.

(2) Any person so in charge shall, on demand as aforesaid, give his name and address to the Justice, or constable, or inspector or other officer.

14.—Local Authority to Enforce Order.

The provisions of this Order shall be executed and enforced by the local authority.

15.—Offences.

(1) If a pig is moved in contravention of this Order, the owner of the pig, and the person for the time being in charge thereof, and the person causing, directing, or permitting the movement, and the person moving or conveying the pig, and the consignee or other person receiving or keeping it knowing it to have been moved in

contravention as aforesaid, and the occupier of the place from which the pig is moved, shall, each according to and in respect of his own acts and defaults, be deemed guilty of an offence against the Act of 1894.

(2) If a person in charge of a pig being moved, where under this Order a licence is necessary, on demand made under this Order, fails to give his true name and address, or gives a false name or address, he shall be deemed guilty of an offence against the Act of 1894.

(3) If any person fail to deliver up or send a licence, as required by this Order, he shall be deemed guilty of an offence against the Act of 1894.

(4) If a pig is not isolated as required by this Order, the owner of the pig, and the person for the time being in charge thereof, and the occupier of the place where the pig is detained, shall, each according to and in respect of his own acts and defaults be deemed guilty of an offence against the Act of 1894.

(5) If a pig is not marked as required by this Order, the owner, consignee, or other person for the time being in charge thereof shall, each according to and in respect of his own acts and defaults, be deemed guilty of an offence against the Act of 1894.

(6) If any person, with a view unlawfully to evade or defeat the operation of this Order, by washing, or in any other manner, takes out, effaces, or obliterates, or attempts to take out, efface, or obliterate, any mark painted on any pig as required by this Order, the person doing the same, and the person causing, directing, or permitting the same to be done, and the owner of the pig, and the person for the time being in charge thereof, shall each according to and in respect of his own acts and defaults, be deemed guilty of an offence against the Act of 1894.

(7) If anything is omitted to be done as regards cleansing or disinfection in contravention of this Order, the occupier of any place in or in respect of which the same is omitted shall, according to and in respect of his own acts and defaults, be deemed guilty of an offence against the Act of 1894.

16.—INTERPRETATION.

In this Order, unless the context otherwise requires:

"Bacon factory" means premises in which the business of a curer of bacon is carried on:

"Slaughterhouse" means any premises where animals are habitually slaughtered:

"Person" includes any body of persons corporate or unincorporate:

"Inspector" includes veterinary inspector:

"The Board" means the Board of Agriculture:

"The Act of 1894" means the Diseases of Animals Act, 1894.

17.—SHORT TITLE.

This Order may be cited as the Swine Fever (General Movement) Order of 190 .

In witness whereof the Board of Agriculture have hereunto set their Official Seal this day of , one thousaud nine hundred and

*Assistant Secretary.*

## A VETERINARY STAFF FOR THE TRANSPORT SERVICE IN INDIA.

By Captain H. A. SULLIVAN, Army Veterinary Corps.

The Transport Service in India is, I believe, second to none in the world in efficiency, a happy state of affairs probably due to two things—(*a*) the employment of native labour under intelligent European direction; (*b*) the numberless small wars in which the country is continually involved which tend to bring to light defects which would otherwise be overlooked.

One defect at least however remains. It has not been overlooked, on the contrary it has been represented from time to time by several officers, and was brought forward also by the Transport Committee of 1898, and that is the all-important question of Veterinary supervision of Transport animals.

There are (*vide* statements attached) about 32,599 animals of all sorts in the Transport Service in peace time distributed over India and Burma, which on mobilisation will be increased to over 50,000. These animals are subject to such contagious and infectious diseases as Glanders, Anthrax, Rinderpest, Foot-and-Mouth Disease, Surra, Epizootic Lymphangitis, Mange, etc., and the responsibility for the freedom of this large number of animals from the diseases, any or all of which might paralyse the Transport Service at a critical moment, rests with Salootris who for the most part have only had three months' training in ordinary hospital work and many of whom have never seen, and would not recognise if they did see, any of these serious contagious diseases from which animals suffer.

This defect is undoubtedly a very serious one, and one deserving of much attention. It has not been overlooked, but the question has rather been whether it were better from the State's point of view to risk a certain amount of loss from these diseases, or incur a recurrent annual expenditure by providing a properly qualified Veterinary Staff to supervise the Veterinary arrangements of the Transports Service. At first a sort of compromise was resorted to, and whilst Salootris were in charge of Transport Units, Veterinary Officers were detailed to inspect them monthly or bi-monthly. This of course was not satisfactory, for in the first place there were a number of stations where Transport Units were stationed where there was no Veterinary Officer, and where the services of a Veterinary Officer were available he naturally did not take that amount of interest in animals which he saw once a month or once in two months as in animals with which he was in daily contact. All this, however, has long since been done away with, and the regulations which now bear on the inspection of Transport animals are para. 720, Vol. II, A.R.I., and para. 10, Vol. VIII, A.R.I. as follows:—

Para. 720, Vol. II:—"Except on Field Service officers of the A.V. Corps are not to be called upon to attend the animals of Mountain Batteries, Silladar Cavalry and the Supply and Transport Corps, but on an outbreak of contagious or infectious disease, the Officer Commanding the Station will at once take steps for the attendance of the Veterinary Officer in whose charge the station is."

Para. 10, Vol. VIII:—"The Inspecting Veterinary Officer will, under the orders of the Lieutenant-General Commanding, inspect all public animals in the Military Service in the Command at least once yearly, and enquire into all matters relating to the preservation of their health."

This virtually means that this large number of Transport animals still remains in the hands of Salootris, who, though excellent in some ways, are in many others quite unfitted by their training for the responsibility which at present rests upon them.

The disadvantages of this system are—

1. That serious contagious disease may exist in a Transport Unit and not being diagnosed will most assuredly, through the nature of Transport work, be spread to other units in the station. An example of this occurred quite recently in Poona, where Epizootic Lymphangitis was existent for some time in the 13th Mule Corps before it was accidentally discovered, unfortunately not soon enough to prevent infection of batteries at Kirkee.

2. Salootris after they have passed through a course are not brought in contact with Veterinary Officers except at the Inspecting Veterinary Officer's inspection, on the outbreak of contagious disease, or when going up for

promotion, with the result that they have a tendency rather to forget what little they have learnt than to improve their knowledge.

3. That the Transport officer (frequently an Infantryman) has no one to whom he can turn for advice on subjects which are necessarily beyond the ken of his Salootri; on such subjects for instance as the fitness and suitability of remounts received, the diagnosis of difficult cases of lameness, as to which animals should or should not be cast, whether the shoeing in his Corps is properly carried out, whether his Salootri is or is not up to the mark in his professional knowledge.

4. The casting of animals from Transport Units primarily depends on the Salootri. The Salootri unable to cure a case of lameness (very often because he does not know the cause or seat of it) brings it up before the Officer Commanding the Unit, who knowing no more, or even less about it than the Salootri, and only knowing the animal has been lame for a very long while, brings it up with others before the Officer Commanding Divisional Transport, who necessarily knows less about it than the Officer Commanding the Unit and the Salootri. He in turn brings it up before the General Officer Commanding who, of course, knows even less of the case than any of them, and the animal is cast. No Veterinary Officer sees the case from beginning to end, and undoubtedly great wastage occurs from this cause.

To obviate these difficulties, Veterinary supervision of Transport Units is undoubtedly necessary, and the question arisen how this should be provided, whether—

(*a*) by increasing the A.V. Corps by a certain number of officers and detailing them as necessity arises to supervise Corps ;

(*b*) by establishing a Veterinary Staff for the Transport Corps identical in every way with the Remount Veterinary Staff.

The former way has practically been tried and found useless. I do not say that the A.V. Corps has ever received a few additional officers for the work, but without these few inspections have been arranged and carried out, and not being a success it was dropped, and we cannot anticipate any different result because a few additional officers are added to the Corps. It must be borne in mind that many stations where Transport Units are stationed are far away from any Station Veterinary Hospital, such for instance as Thayetmyo, Shwebo, Meiktila, Cannanore, Wellington, Lyallpur, Multan, Montgomery, Shahpur, Hasan Abdal, etc., and when these additional Veterinary Officers, spared from other duties, come to inspect the Transport in these stations, such inspection will savour much of the inspections already done away with.

Such a scheme I consider impracticable, and if adopted fore-doomed to failure.

The second scheme I am strongly in favour of, and we have the strongest argument in its favour in the present efficiency of the Remount Department.

The scheme suggested is as follows :—

*Scheme for the Provision of a Transport Veterinary Staff.*

It is suggested that the Transport Corps should have its own staff of Veterinary Officers in the same way as the Remount Staff.

That the staff be composed of one senior Veterinary Officer who would be Personal Assistant to the Inspector-General of Supply and Transport, and eight Executive Veterinary Officers as under :—

| | |
|---|---|
| Northern Command | 2 |
| Eastern Command | 1 |
| Western Command | 1 |
| Secunderabad Division | 1 |
| Burma | 1 |
| Special Officer in charge of Camel Corps | 1 |
| Reserve Officer | 1 |
| | 8 |

Duties of the administrative and Executive Veterinary Officers :—

The administrative Veterinary Officer would be responsible to the Inspector-General of Supply and Transport for all the work in the Supply and Transport Units. He would be responsible for the posting of the Executive Veterinary Officers and would tour throughout India and Burma to satisfy himself in regard to the proper carrying out of all Veterinary arrangements, and would advise the Inspector-General in regard to all Veterinary questions.

The Executive Veterinary Officers would tour throughout their Commands inspecting all corps and cadres and lecture periodically to these various corps on Veterinary matters, *especially* in regard to contagious diseases. They would report at once to the senior Veterinary Officer any outbreak of contagious disease and the steps taken to prevent its spreading.

During their tour they would arrange to spend some time in each station, assisting with their advice in regard to animals proposed to be purchased or cast, would advise in regard to dietetics and hygiene, would inspect the shoeing and see that this was properly carried out, would lecture on the anatomical principles on which saddle fitting is based and the means adopted to keep animals at work on service with sore backs, would examine the Veterinary Assistants for promotion, and see that they were up to their work at all times, would examine all animals detailed for service both as regards their soundness and their freedom from contagious disease, *and would go on service with their own Transport.*

To see how such a scheme would work out in practice let us take for the moment the Northern Command containing 17,280 Transport animals on a peace footing.

Under the scheme two Veterinary Officers are allotted to the Northern Command and one Veterinary Officer is specially detailed to study the diseases of camels.

The officer detailed to study camel diseases would take charge of the following stations :—Lyallpur, Multan, Montgomery, Shahpur and Campbellpur with his headquarters at Lyallpur where there are four Camel Corps. This would leave 12 stations in the Command with 12,996 animals other than camels for division between the two Veterinary Officers of the Command.

One of these would take Rawalpindi as his headquarters, where there are 3263 animals, and the other Umballa where there are 2520, and divide the 12 stations between them, or 6 stations each with about 6,498 animals apiece. Giving one month to each station they visited they would complete their tours in six months, when the round might be begun again. From this it will be seen that though each officer has over 6000 animals under his charge he would be able to devote quite a large proportion of time to each unit. It would not be a case of inspection one day and off again the next, but an appreciable period would be spent with each Corps, during which time they would go thoroughly into all Veterinary matters connected with the Corps. At their respective headquarters they would arrange for the thorough instruction of Nalbands in shoeing, whence they would be drafted to their units. Worked on this system, though the Veterinary Officers be few in comparison to the number of animals to be dealt with, they would nevertheless be in thorough working touch, not only with the Transport animals, but with Salootris, a matter of great importance when proceeding on active service.

The result of such supervision would undoubtedly add to the efficiency of the Corps in many ways. The Salootris would be kept up to their work, the expenditure of medicines would be controlled, the general health of the animals improved by attention to dietetics and hygiene, the shoeing would be improved, expert advice would be available in cases of lameness, casting and purchase, and in the examination for soundness before

proceeding on service, and in short, Transport animals proceeding on service would be thoroughly overhauled by the Veterinary Officers in whose charge they had been for some time past and would take the field still under his charge, instead of shifting for themselves as has hitherto been the rule.

## Extracts from a Lecture on "The Veterinary Aspect of the Tuberculosis Problem," by Professor John Penberthy, F.R.C.V.S. Delivered before the Royal Institute of Public Health.

### GOOD RESULTS FROM PARTIAL LEGISLATION

"Without necessarily accepting the high rate of mortality of infants and its maintenance to be solely accounted for by the consumption of tubercle bacilli derived from the cow, we may point to the material change which has occurred in communities where the adoption of measures for assuring improved hygienic surroundings of the people *has included the systematic inspection of cows and milk by adoption of the provisions of the Dairies, Cowsheds, and Milkshops Order and its amendments, and special powers.* For example, the report of the Medical Officer of Health for Liverpool for 1905 gives the following instructive figures, and we take this as typical of improvements accruing to the action of other authorities who have taken the matter seriously and acted vigorously :—

| | 1866 to 1875 | 1876 to 1885 | 1886 to 1895 | 1896 to 1905 | 1905 | Diminution per cent. |
|---|---|---|---|---|---|---|
| Annual average death-rate per 100,000 of population at all ages from all forms of tuberculosis | 430·8 | 349·8 | 309·8 | 247 2 | 225·4 | 47·3 |
| Annual average death-rate per 100,000 of population above 5 years from phthisis | 362·8 | 278·6 | 244·4 | 203·8 | 187·4 | 49 |
| Annual average death-rate per 100,000 of population below 5 years of age, from : Tabes mesenterica, Hydrocephalus, Scrofula | 637·1 | 597·3 | 539·1 | 339·5 | 307·6 | 52 |

Therefore during the past forty years the diminution of the average death rate per 100,000 below five years has been greater than that of tuberculosis at all ages, while during the year 1905 it has been, in the case of under five years, 31·9 per 100,000, as compared with the average of the previous decade. The most remarkable result, however, is shown by comparison of the annual average death-rate of the population below five years for the decade 1886 to 1885 with that for the decade 1896 to 1905, which shows a diminution of 37 per cent., while that of the population of all ages from all forms of tuberculosis is 20 per cent., and that of the population above five years from phthisis is 17 per cent. The diminution of deaths in the milk-drinking age during the ten years prior to 1906 was almost twice as great as the average diminution at all ages of the whole population, and the figures for 1906 indicate that this progress is well maintained."

#### Compensation.

"In dealing with contagious diseases of the domesticated animals, where the loss to the stockowner and to the national wealth has been the sole consideration, and the principle of compensation has been ungrudgingly and successfully adopted, it is difficult to understand why, when its adoption would be almost exclusively for the public advantage, the principle should not be assented to. Beyond justice to the stockowner, it is essential that his co-operation should be enlisted, and we know of no more certain means of securing this than by treating him fairly."

#### Economy of Action.

"We believe that the carrying out of such measures as would at once most materially mitigate any danger which may now exist, would not entail an expenditure equivalent to the benefit which would accrue to the action. It is urgently necessary to provide for the compulsory notification of all udder disease, the frequent periodic inspection of all dairy cattle, the withdrawal of all cows with diseased udders and those obviously tuberculous or suspected of being so, and the slaughter of all animals found to have mammary tuberculosis or to be discharging tubercle bacilli. It must not be lost sight of that the "salvage" would be considerable where the the disease was limited, and materially reduce the sum calculated on the basis of each animal so dealt with."

#### Necessity for Action.

"If tubercle bacilli from bovine sources are so virulent for man as the second interim Report leads us to infer, delay in compelling the withdrawal of the danger by measures which are practical, means a continued massacre of the innocents, and complicity on the part of those who are responsible. It is is no excuse to tell us that local authorities *may* acquire powers, for the fact that they do not is in itself proof of the necessity for compulsion and uniformity of action."—*Journal of the Royal Institute of Public Health.*

## SOUTHERN COUNTIES VETERINARY SOCIETY.

The December meeting was held at the Holborn Restaurant, London, on Wednesday, the 11th inst., when the chair was taken by the President, Mr. R. Roberts, F.R.C.V.S, of Tunbridge Wells, and the others present were Messrs. E. Whitley Baker, Wimborne ; W. Burt, junr., J. H. Lockwood, Brighton ; W. Caudwell, Chertsey ; H. Gray, W. Hunting, R. Porch, Reg. F. Wall, London ; G. H. Livesey, W. K. Stuart, Hove ; J. B. Martin, Rochester; W. F. Maynard, Romsey ; A. Maynard, Bournemouth; C. Pack, Lymington ; D. Pugh, Sevenoaks ; J. W. Pritchard, J. Alex. Todd, Worthing; and P. J. Simpson, Maidenhead.

Visitors : Messrs. J. Willett, President of the Central V.M.S.; A. E. Bayley, G. C. Love, J. Rowe, London; C. J. Callow, Burgess Hill; and W. R. Clarke, Hampstead.

As Mr. Roberts was unable to reach the meeting at the time fixed for the commencement of the proceedings Mr. E. Whitley Baker was temporarily voted to the chair, on the proposition of Mr. A. Maynard, seconded by Mr. W. F. Maynard.

The minutes of the last meeting as published in *The Veterinary Record* were, on the proposition of Mr. A. Maynard, seconded by Mr. W. F. Maynard, taken as read and confirmed.

The HON. SEC. reported that as requested at the last meeting he had written to Major J. A. Meredith and Mr. P. Woodroffe Hill asking them to reconsider their decision to resign, but without success; and their resignations were consequently formally accepted with regret.

Messrs. D. PUGH, of Sevenoaks, and NORMAN GILFORD, of East Grinstead, who had been nominated at the last meeting were formally elected members, on the proposition of Mr. W. K. Stuart, seconded by Mr. J. B. Martin.

The following nominations were received for election at the next meeting:—

Mr. P. PERKINS, of Hastings, proposed by the President, seconded by Mr. Pugh.

Mr. C. J. CALLOW, Burgess Hill, proposed by Mr. Todd, seconded by Mr. Stuart.

Mr. J. H. MILWARD, Wincanton, proposed by Mr. E. Whitley Baker, seconded by Mr. Todd.

The HON. SEC. announced the receipt of letters from Messrs. Geo. Thatcher, Solicitor R.C.V.S., *re* a prosecution; Fred Bullock, Secretary R.C.V.S.; J. Malcolm, *re* Hunting Testimonial Fund; and from a number of members who were unable to attend the meeting.

On the proposition of Mr. G. H. Livesey, seconded by Mr. A. Maynard, it was agreed to hold the meeting at Portsmouth on the last Thursday in March.

Mr. G. H. LIVESEY, in pursuance of notice, then moved: "That a resolution be sent to the Board of Agriculture asking that "Johne's Disease" may be scheduled as a disease under the Contagious Diseases (Animals) Act, 1894."

Mr. E. W. BAKER, in seconding, suggested a slight alteration in the wording of the resolution and, after it had been spoken to by the President and Mr. P. J. Simpson, it was amended as follows, and carried unanimously:—

"That the Board of Agriculture be requested to take such steps as they may deem necessary to stamp out "Johne's Disease," and, if the disease should appear to them of sufficient gravity to demand notification, tha it be forthwith scheduled under the Contagious Diseases (Animals) Act, 1894.

Mr. LIVESEY thought they ought not to let that opportunity pass without tendering to Mr. E. Whitley Baker their congratulations on his recovery from his recent serious accident, and with the permission of the President he would propose accordingly.

The PRESIDENT concurred, and it was carried by acclamation.

Mr. BAKER, in a feeling response, expressed his sincere thanks. He had found that he had many friends in the profession, and he could assure them that he valued very much their very kind expressions of sympathy.

## SOME MORBID CONDITIONS OF THE PHALANGES.

By W. HUNTING, F.R.C.V.S.

It is rather remarkable that so large a proportion of all the articular or osseous lesions affecting horses should be found in the phalangeal region. With the exception of splints and sprains, it is very rare to find either articular or osseous disease above the fetlock. Anyone who has had the opportunity of examining phalangeal bones in a knacker's or bone-boiler's establishment must have been struck with the variety of lesions disclosed. Fractures are tolerably common, and many of them firmly repaired. Bony enlargements are frequently seen, varying from well-marked masses on the suffraginis to little osteophytes on the surface of the coronary and pedal bones. These last bones often show alteration in form from absorption due to continued pressure which has not been sufficient to induce acute inflammation. On the posterior processes of the foot-bone are often to be found roughened surfaces formed of small bony outgrowths which are traceable to the effects of acute bruising, and which probably explain why "corns" that are permitted to exist for a month or two become incurable. The flattening of pedal bones due to absorption of their under circumferential surface are not now so common as in the time when hoofs were unduly rasped away and horny soles pared till their protecting qualities were damaged. These post-mortem specimens found in heaps of unidentified bones lose a great deal of their interest from having no history, but they possess both interest and instructive value when we consider them in relation to similar lesions of which a history can be obtained. The frequency of these lesions in the dead bones, and the discovery of similar changes in cases we have observed and treated during life, help to explain some of the peculiar lamenesses in which diagnosis is difficult or impossible.

I have no doubt that the majority of our undiagnosed lamenesses have their seat in the phalangeal region. There may exist within the hoof such grave conditions as fracture or necrosis of bone, and yet no lameness to attract attention to them. I have seen this in navicular disease, and in some pedal conditions. On the other hand you may have marked lameness and, during life, no local change pointing to the position of the lesion—none of the classical symptoms of inflammation such as heat, redness, or swelling. Pain doubtless we have, but only indicated by objective symptoms which are vague and often delusive. The difficulty of diagnosis in most of the affections of the phalangeal regions is a real obstruction to treatment. Of course many of them in time develope some visible sign of their seat and nature; and we have at our command an agent in cocaine which affords much assistance. An injection of cocaine over the metacarpal nerves will usually enable a diagnosis to be made to some extent. It will remove pain due to any lesion below the middle of the pastern. It will not help when the pain and lameness arise from some morbid change in the fetlock joint or on the head of the os suffraginis. With these general remarks I will now briefly notice a few of the phalangeal changes which give rise to lameness.

### FRACTURES.

Fractures of the phalangeal bones may occur from direct external violence, but I only desire now to refer to those which result from the weight of the horse being thrown upon a bone with sufficient force to break it, as when a horse is galloping or prancing, or when a foot is brought violently to the ground by a horse in pain, or from temper. I believe that fractures may occur in a perfectly sound phalangeal bone simply through weight being imposed upon it when it is in an unfavourable position to meet it. When, for instance, a horse is galloping over uneven ground, and the muscles fail to act in co-ordination, so that weight is transmitted from the bones above to one below in a fixed position on the ground, and in a position which offers no opportunity for the dissemination of the force through it to the other tissues. A horse excited may rear and prance, bringing a foot to the ground violently, and probably with the pastern too straight, and cause a comminuted fracture of the bone. A bone becomes predisposed to fracture when its normal qualities are altered by inflammation. After neurectomy fractures occur which are directly traceable to disease of the bone. Neurectomy performed to remove the pain resulting from navicular disease has often been followed by fracture of the navicular bone. Median neurectomy, performed for lameness due to osteo-arthritis of the fetlock joint, has frequently had for

its sequel fracture of the suffraginis; and now that median neurectomy has come to be more widely used we have even fracture of the metacarpal bones—the bones being, I believe, altered in quality by inflammation accompanying extensive splints.

*Diagnosis.*—The diagnosis of fracture of a phalangeal bone is certain when crepitus can be detected, but it is very uncertain when no displacement accompanies the injury. Fractures of the suffraginis may be comminuted, they may extend to only one or more fissures, they may consist of a split that only extends partly through a bone, and they may be merely little chips from the outer edge of the articular surface. The partial fractures and the small "chip" fractures cause no swelling although much lameness, and are difficult to diagnose. Sometimes we may detect one spot at which pressure gives rise to signs of acute pain, and with the history of the case this may enable us to arrive at a conclusion.

As a rule fracture of the bones within the hoof affords no symptom other than excessive lameness to guide us, and we have thus to trust to a negative diagnosis based upon failure to find any other lesion which would account for lameness. My own experience teaches me that diagnosis of fracture within the hoof is so difficult and uncertain as not to warrant a hasty order for slaughter. Like other bones the pedal may be predisposed to fracture by disease. I remember a case of a cankered foot in which the whole sensitive sole was denuded of horn and covered with the disease. This horse was at the forge having the foot dressed. He suddenly snatched his foot from the farrier and brought it down violently upon the stone-paved floor. Excessive lameness followed immediately, and a post-mortem examination disclosed a vertical fracture right through the bone. I am inclined to think this fracture would not have resulted had not the bone been softened by the long-continued disease. Fracture of the navicular bone has often puzzled practitioners, and I know no direct symptom by which it may be diagnosed. I have, when I suspected it, carefully tried pressure in the heel and on the back of the tendon, but without getting a reaction to guide me; and I have afterwards discovered the lesion post-mortem.

### Inflammation.

Perhaps the most interesting morbid conditions of the phalanges are those in which the bones and joints are the seat of disease. We have periostitis, ostitis, and osteo-arthritis. The effects of periostitis are frequently visible in the shape of bony enlargements on the suffraginis or corona (false ringbone). The effects of ostitis are best shown perhaps in "cab-horse disease" and navicular disease, whilst osteo-arthritis is found when the inflammation of the bone extends to the articular surfaces. It is rather curious that in most cases of osteo-arthritis affecting the concave articular surface—in phalangeal disease the upper end of a bone. Just in passing I may add that this selection for attack of the concave rather than the convex surface of an articulation is seen in joints of the upper part of the limbs even when the concavity is found in the upper bone of the joint—as for instance, in the hip joint. Of course, both surfaces of a joint are affected and almost symmetrically when arthritis has proceeded so far as to cause ulceration or necrosis. Another osteo-arthritic condition is found in what has been called Pyramidal disease.

From the course of the lameness induced and from the similarity of symptoms and lesions, I incline to believe that these inflammations of bone in the phalangeal region are all so analogous that we may draw conclusions from each that are applicable to all. In the so-called "cab-horse disease," of which I produce specimens, the most conspicuous lesion is a bony enlargement on the inner side of the head of the os suffraginis. But this is really a late development of the disease, and lameness has existed for weeks or months previous to the appearance of any enlargement on the inner side of the lower surface of the fetlock joint. This form of lameness is not easily diagnosed. No heat, pain or swelling about the fetlock or pastern is evident. Perhaps the most suggestive symptom is that the horse goes out sound, and after an hour's work is so lame that he can hardly be walked home again, and that next morning no lameness is visible. This sort of thing is repeated a few times, and then the lameness becomes more lasting, and ultimately an enlargement appears on the inside of the lower part of the fetlock joint. The lameness preceding enlargement is doubtless due to ostitis going on in the suffraginis, and gradually the inflammation spreads to the outer surface and sets up periostitis. But it also spreads towards the articular surface, and we never find the enlargement due to periostitis without also finding on post-mortem some changes in the articular surface.

In navicular disease a similar sequence of changes occurs. First lameness, and if a post mortem very little to be seen. When lameness is continued for some time changes may be found in the surface of the bone. The change is not always necrosis—it may be only a thin line of ossific matter, and therefore we conclude that ostitis has been in existence before any articular mischief developed. In some cases no change is found in the synovial bursa and no change in the surface of the bone, but changes are visible when the bone itself is sawn in two, and hardly ever is a case of long-standing navicular disease found without some periostitic formations on the bone. Now, if the symptoms of cab-horse disease and navicular disease are more or less analogous, and the pathological lesion the same, I venture to say that similar conditions in the other phalangeal bones and joints proceed on much the same lines, and that an ostitis is the initial change which accounts for all of them.

Between the suffraginis and the corona we have morbid changes similar to those found in the navicular and fetlock joints. We have periostitis giving rise to bony enlargements not implicating the joints, and we have bony enlargements which do implicate the joints. In the case of those exostoses which do not cause anchylosis of the joint, my experience is that very seldom is the articular surface affected. In the case of those exostoses which surround and fix the joint, I have not yet seen a case in which the articular surface has not been the seat of inflammatory changes—softening, ulceration and necrosis—conditions which I believe proceed from a primary ostitis of the bone. On the contrary, when I find even large exostoses on the suffraginis not implicating the joints, I never find articular destructive changes. I believe that the non-articular enlargements are due to a primary periostitis, probably set up by strain on the bone at the point where large ligaments and tendons are inserted, and not to concussion. Those pathological conditions in which the joint is implicated, and which I believe are due to an initial ostitis, are due to the direct excitement of concussion with a predisposition from heredity. I have not used the term ringbone in speaking of these two conditions—one evidenced by exostosis without articular change, the other always consisting of bony enlargement and articular disease. It may possibly make the statement of my idea more lucid if I say that the articular mischief is usually described as true ringbone and the mere periostitis as false ringbone. If I am not wrong in my conclusions the two conditions are very different and should not be spoken of under one term. I deprecate the use of the words "true" and "false" in connection with ringbone or any other morbid condition. Conditions so described may present some similarities, but are really different things, and I desire to confine the word "ringbone" to an articular disease which causes lameness and is incurable, whilst the exostoses on a bone are not always incurable although they may cause prolonged lameness.

As to the cause of these ossific and arthritic changes in the phalangeal region there are two theories. One supposes them to be due to primary sprain of the ligamentous structures, the other to an initial inflammation of the bones. I admit that both are arguable, but I submit that the weight of evidence is in favour of ostitis due to concussion being the cause of all those conditions in which articular mischief is found. The exostoses not implicating joints are probably due to tension on the periosteum or the bone by ligaments and tendons. So far as I know all the exostoses commence at parts where fibrous tissues are attached to bone—notably to the lower external surfaces of the os suffraginis. The joint most frequently affected in ringbone is the coronary, but the pedal joint may also suffer. As the pedal joint is within the hoof the pain is greater than when the joint above is the seat of the change. Again the lameness from the two different sites differs somewhat, as the coronary joint is one possessing very little movement, whilst the pedal joint naturally has a good deal of motion. If it were not that in both cases the articular surfaces undergo destructive changes, we should say that a high ringbone—connecting the suffraginis and coronary bones—would be a less serious condition than the low ringbone which affects the coronary and pedal bones. They are both bad, but that affecting the lower joint is the worst. These conditions are pathologically interesting, but they are also of importance in veterinary practice from a medico-legal aspect. They often are problems for consideration before giving an opinion on soundness, and they are the subject of controversy in law courts when prosecutions for cruelty follow the working of horses suffering from them.

Is a ringbone unsoundness? About this none of us differ. It is a gross unsoundness. Is the so-called "false" ringbone unsoundness? Here opinions may differ. Some horses show well-marked bony enlargements on the pastern bones, and where the exostoses are alike on all four pasterns I believe they should not be classed as unsoundness. Of course if they give rise to lameness they are an unsoundness, and even if they are likely to cause lameness they must legally be acknowledged as unsoundness. When only one swelling is present, or when that is abnormally large, it is an unsoundness, but when on both limbs or on all four we find enlargements of the pastern about the same size and shape, I conclude that they are not dangerous and should not encourage us to advise against purchase. Then in cases of cruelty we have often differences of opinion as to the amount of pain accompanying lameness, or, it may be, the duration or constancy of the pain. In articular disease—true ringbone—I believe there is always incurable disease of the joint surfaces, and therefore always pain. Such cases are continuously unfit for work. In the case of exostoses not implicating a joint, lameness is intermittent and produces pain in proportion to the periostitis going on. Except in the most pronounced cases it is safe to say that pain is not continuous and that the lameness is not of the most acute nature—that it varies according to the work done, and may arise to-day in a horse that was not lame yesterday, although presenting a well marked bony enlargement. (Applause.)

### Discussion.

The President said he was quite sure he would be expressing the opinion of everyone when he said that they were extremely grateful to Mr. Hunting for giving them such an excellent paper. He (the speaker) had listened to a good many papers on lameness, but he did not think he had ever listened to one in which so much had been put into so little space. There were many points about it that would bear a good deal of discussion. There could be nobody present that day who would be able to say he had nothing to add to the paper, because it simply bristled with points that one or other of them would be able to take up. Personally he did not think they ought to exhaust the discussion that day, and he would prefer to see one or two speak to it, and then to adjourn the discussion to their next meeting. With regard to navicular disease, and especially with regard to the theory that had been enunciated that day, that it was ostitis which was the beginning, there used to be a theory held by a good many people that it was rheumatic in its origin. Whether that was so or not he was unable to say, but he had certainly seen several cases occur in young animals that had never been broken and had never done a day's work or had a person on them.

Mr. Martin: How do you account for navicular disease in those cases then?

The President: Well, I can only account for it by its being hereditary. Continuing, Mr. Roberts said he remembered one case in which the mother and every one of a progeny of four had this disease, and he thought they might fairly infer that in that case it was hereditary. If it was hereditary, the question arose what was the nature of it? Was it rheumatic? He thought that in some cases it was. Many years ago, when he was at College, Professor Williams used to rub it into the students very strongly that ostitis was always the precursor or originating feature of navicular disease. As to the exciting cause it was rather difficult to follow Mr. Hunting's theory, that it was concussion in those cases where the bone bore no weight and where the only pressure was the pressure of the tendon that passed over the bone. On the other hand there were many arguments in favour of concussion, and he was a great believer in the theory himself as regarded the production of ostitis in nearly every form of disease that Mr. Hunting had mentioned. He also thought conformation had a good deal to do with it very often, and that concussion was the exciting cause. If they took conformation and concussion he thought they had the two most important factors that brought about ostitis. If a horse had bowed legs they would be certain to find it had splints forming near up against the knee, and that it would have them pretty early, sometime before it was even shod or brought into work. In such a case he believed heredity and conformation had a good deal to do with it, although they might have concussion as the exciting cause.

Mr. R. Porch desired to thank Mr. Hunting for the paper he had brought before the Society that day. Whenever he had heard Mr. Hunting read a paper, it had not only always been a practical one, but he also had the happy knack of convincing the majority of his listeners that he must be correct. With regard to fracture of the navicular bone after unnerving, he (Mr. Porch) suggested that it was very often due to the horse regaining its action. Mr. Hunting had also said it was difficult to diagnose, and undoubtedly it was until they could find something to account for it. He should like to ask Mr. Hunting one question with reference to cab-horse disease. He did not know why they called it cab-horse disease, for he had seen plenty of bus horses with it, and in fact it was common with any class of horse that did a large amount of trotting on a hard surface like the London streets. In his experience in ninety-nine cases out of every hundred it had been on the inside, and it was very rare that they saw it on the outside. He should like to know what Mr. Hunting's experience was?

Mr. Hunting: I never saw a case on the outside.

Continuing, Mr. Porch said he believed Mr. Hunting had mentioned firing as a remedy for ringbone lameness.

Mr. Hunting: Cases of so-called "false" ringbone are curable, and in those I should fire, but I don't think it worth it in the others.

Mr. Porch: There I must differ. I have seen cases of ringbone that have got workably sound on firing. Again, where I find one high ringbone I have found a

dozen low ones, and in case of low ringbone I have found firing to be of service in getting horses workably sound. Mr. Porch went on say that he found the method of firing that was the most beneficial was to fire very low down, almost if not quite through the hoof. By so doing they allowed for the expansion of the hoof and thereby relieved the pressure. Ringbone was a bone of contention as well as ringbone. He agreed with Mr. Hunting that what was known as false ringbone should not be described as ringbone. If he found a horse with enlargement round all four coronets, he said it was not ringbone but simply conformation of the bone—quite a different thing to ringbone. Some authorities said ringbone commenced as condritis and others as arthritis. Which of these did Mr. Hunting favour? Other authorities again said conformation had a good deal to do with it, and he himself believed it had. Then, again, some authorities contended that an upright pastern was the more predisposed, while others said the oblique was the more predisposed. In his experience it occurred more frequently in the upright than in the oblique.

Mr. A. MAYNARD was sorry to hear Mr. Hunting say if a horse had so-called ringbone on four legs he would pass it as sound. With reference to unnerving of horses and their going lame afterwards, his theory was that there was a good deal of fibrous tissue formed after the trouble which caused the lameness had been healed, and that this brought with it a certain amount of sensation.

Mr. H. GRAY said he agreed with most of Mr. Hunting's remarks, although he could not see quite eye to eye with him as to the cause. Disease of the joints frequently took place after illness, such as influenza, and in his opinion the majority of instances of bone diseases in animals was due to bacteria, and that what had been called hereditary was nothing more than an hereditary predisposition. If concussion was the exciting cause he thought they would get more of this disease among the funeral horses. These horses stepped very high, but beyond splints bone disease was very rare amongst them. Neither could he quite agree with Mr. Hunting that the disease started in the cancellated portions of the tissue. He had seen cases of septic arthritis in foals which started in the articular surface, and spread from that to the cancellated tissue, and they frequently had bony enlargement from it. Mr. Roberts had mentioned rheumatism as a cause of joint disease, and he quite agreed that what one might call rheumatic influence played a great part in bringing about lameness. They saw it in navicular disease very often, and he put it down to this—that where there was a weak spot the rheumatic influence attacked it. They might have a decayed tooth for months and yet experience no pain, but immediately they got a change in the weather and the atmospherical conditions were favourable to rheumatism or neuralgia, they got tooth-ache at once. With regard to firing, he had given that up for several years because he had not seen any good result from it. Like the other speakers, he should like to thank Mr. Hunting for bringing such excellent material for them to discuss.

Mr. LIVESEY asked Mr. Gray what he meant by rheumatic influence.

Mr. GRAY: The common acceptance of the term; in other words he thought it was due to atmospherical conditions.

Mr. MARTIN desired to give one instance on the question of navicular disease being hereditary. He recollected a mare breeding three foals. The mother, a roarer, had curbs and navicular disease, and all three foals were roarers, had curbs and navicular disease. This navicular disease was a very serious matter with them, because they lost so many horses from it, and if Mr. Hunting could tell them what was really the cause of it he was sure they would all be very glad. Personally, he did not believe concussion was the cause, because the bone was so protected by the tendons. He believed a good deal of it was hereditary predisposition.

Mr. PUGH expressed himself as a great believer in concussion. He believed concussion produced all the cases of ostitis their patients were subject to. Mr. Martin was very strong upon the protection afforded by the fibrous structure, but they frequently had cases of horses going lame on the hard road, and when they put them on soft ground they went better. He also went with Mr. Hunting as to the difficulty of diagnosing fractures. He knew of two cases where veterinary surgeons diagnosed fracture and they had to pay for it. He was extremely obliged to Mr. Hunting for giving them such an excellent paper, and he hoped he would be spared for many years to give them the benefit of his experience, which he always put into such choice words.

At this stage the discussion was adjourned to the next meeting at Portsmouth, and the proceedings terminated.

Time did not permit of the inspection of some up-to-date tooth instruments which Mr. R. F. Wall had brought to the meeting. Their consideration was consequently postponed until the next meeting.

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In the evening the annual dinner took place in the Phœnix Salon at the Holborn Restaurant. Mr. W. K. Stuart, of Hove, the ex-president, made a genial Chairman with Sir John M'Fadyean, the President (Mr. R. Roberts), and Mr. J. Willett, of the Central V.M.S., the chief guests of the evening, as his immediate supporters, the company altogether numbering about thirty.

At the conclusion of the repast the customary loyal toast was submitted from the chair and duly honoured, after which Mr. Hunting invited the members to drink the health of "Our Guests." It was always a pleasure he said to propose the health of one's guests, and this was particularly the case when their guests were men whom they desired to honour. That evening he desired to couple the names of three gentlemen with this toast. One was Sir John M'Fadyean, of whom he might say that he was always welcome at any meeting or gathering of members of the veterinary profession. (Applause.) And it was not only as a scientific man that they admired Sir John, but he was also a Scotchman with a keen sense of humour—an extremely rare thing. (Laughter.) Another guest whose name he desired to couple with the toast was Mr. John Willett, the respected President of the Central V.M.S., and the third was that of their own President, Mr. R. Roberts, who appeared to be such a general favourite that the members insisted on his being their guest at the Society's own dinner.—(Applause.)

The toast was cordially received.

Sir JOHN M'FADYEAN thanked Mr. Hunting for his kind references to himself, and then proceeded to assume that the latter's remarks was a candid confession of the weakness of Mr. Hunting's own countrymen. Humour was by no means rare when one crossed the Tweed. On the contrary it was so common that no one thought it necessary to remark upon it. (Laughter) It was a real pleasure for him to be there as the guest of their Society, and his only regret was that he had not been able to get to their meeting earlier in the day.

Mr. J. WILLETT in the course of his response said he geeatly appreciated the honour they had done him, and his Society in inviting him there as their guest, and he could assure them he had enjoyed himself most thoroughly. (Applause.)

Mr. R. ROBERTS, after thanking Mr. Hunting for his kind expressions concerning himself, observed that he felt he was in rather an anomalous position inasmuch as he was both the President of the Society and its guest, but after all what more could one wish for than that. (App.) He always felt when he came to the meetings of the Society that he had the esteem and friendship of every member, and it was one of the

## DISEASES OF ANIMALS ACTS 1894 TO 1903. SUMMARY OF RETURNS.

| Period. | | Anthrax. | | Foot-and-Mouth Disease. | | Glanders (including Farcy) | | Rabies. Cases Confirmed. | | Sheep Scab. | Swine Fever. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Out-breaks | Ani-mals. | Out-breaks | Ani-mals. | Out-breaks | Ani-mals. | Dogs. | Other | Out-breaks | Out-breaks. | Slaugh-tered * |
| GT. BRITAIN. Week ended Dec. 21 | | 21 | 24 | | | 15 | 30 | | | 52 | 26 | 195 |
| Corresponding week in | 1906 .. | 26 | 40 | | | 11 | 19 | | | 32 | 28 | 210 |
| | 1905 .. | 20 | 25 | | | 25 | 39 | | | 37 | 15 | 133 |
| | 1904 . | 23 | 37 | | | 23 | 36 | | | 49 | 14 | 73 |
| Total for 51 weeks, 1907 .. .. | | 1062 | 1438 | | | 840 | 1888 | | | 699 | 2308 | 11115 |
| Corresponding period in | 1906 .. | 917 | 1299 | | | 1056 | 1986 | | | 509 | 1243 | 7117 |
| | 1905 .. | 954 | 1298 | | | 1193 | 2038 | | | 893 | 802 | 3817 |
| | 1904 .. | 998 | 1507 | | | 1486 | 2598 | | | 1314 | 1175 | 5530 |

Board of Agriculture and Fisheries, Dec. 24, 1907.

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| IRELAND. Week ended Dec. 14 | | .. | .. | .. | .. | .. | .. | .. | .. | 17 | 7 | 49 |
| Corresponding Week in | 1906 .. | .. | .. | .. | .. | .. | .. | .. | .. | 10 | 3 | 36 |
| | 1905 .. | 1 | 1 | .. | .. | 1 | 1 | .. | .. | 11 | .. | 1 |
| | 1904 .. | .. | .. | .. | .. | .. | .. | .. | .. | 8 | 1 | 10 |
| Total for 50 weeks, 1907 .. .. | | 3 | 5 | .. | .. | 6 | 11 | .. | .. | 273 | 153 | 2684 |
| Corresponding period in | 1906 .. | 4 | 8 | .. | .. | 8 | 16 | .. | .. | 238 | 95 | 1091 |
| | 1905 .. | 4 | 6 | .. | .. | 30 | 101 | .. | .. | 312 | 137 | 1416 |
| | 1904 .. | 4 | 7 | .. | .. | 11 | 34 | .. | .. | 436 | 300 | 4115 |

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Dec. 19, 1907.

NOTE.—The figures for the Current Year are approximate only. * As Diseased or Exposed to Infection

pleasantest things in life to meet a lot of friends and know one had their esteem and regard. (App.) The Society had his best wishes, and whether in or out of office they would always find him alike in wishing well to the Society and every individual member. He also appealed for the members' co-operation to make next years National Conference a great success. (App.)

Mr. H. GRAY subsequently proposed "The Health of the Chairman," which was received with musical honours, and with a brief reply from Mr. Stuart the proceedings terminated.

J. ALEX. TODD, *Hon. Sec.*

## Personal.

SARJEANT—EDGAR. — At Darling's Regent Hotel, Edinburgh on the 21st Dec., by Rev Dr. Hay Hunter J. Wm. Dorlow Sarjeant, M.R.C.V.S., of the Royal Dick Veterinary College, to Marian Murray, eldeat daughter of Robert Edgar, of Edinburgh.

The Paris Academy of Medicine have this year awarded :—

The Louis Boggio prize of £172 (triennial) to Prof. A. CALMETTE, Director of the Pasteur Institute of Lille, and Dr. C. GUERIN, Chief of the Laboratory of the same Institute, for their researches on the intestinal origin of pulmonary tuberculosis, and on vaccination against tuberculosis by the digestive channels.

The Barbier prize of £80 (annual) for the discovery of a method of complete cure for diseases hitherto recognised as incurable, such as hydrophobia, cancer, epilepsy, scrofula, cholera, etc., divided between : Prof. CADEAC, of the Veterinary School of Lyons, for experimental researches on the contagion of tuberculosis; Dr. E. FRANCOIS-DAINVILLE, of Paris, for an essay on disturbances of nutrition and of urinary elimination in diathesic dermatoses (eczema and psoriasis) ; and Dr. A. ROUSSEL, of Saint-Etienne, for an essay on ankylostomiasis in the coal-mining district of Saint-Etienne.

## OBITUARY

JAMES ALEXANDER MOORE, M.R.C.V.S., Portrush, Ireland. Graduated, Edin: Dec., 1892.

Mr. Moore's death occurred suddenly, on Monday 16th inst. from syncope. He was about 40 years of age. He leaves a widow and one child.

Mr. W. F. SMITH, the well known veterinary surgeon, of Newmarket, has sustained a severe loss in the death of his wife, which occurred on Saturday after a long and painful illness.—*The Sportsman.*

ELEMENTARY LECTURES ON VETERINARY SCIENCE FOR AGRICULTURAL STUDENTS, FARMERS AND STOCKKEEPERS, by HENRY THOMPSON, M.R.C.V.S., Lecturer on Veterinary Science at the Aspatria Agricultural College. Third edition. Revised and amended. Demy 8vo. pp. xiv + 411 and 54 plates. Cloth, lettd. 10/6 net. Ballière, Tindall & Cox. Henrietta Street, London, W.C.

COMMUNICATIONS AND PAPERS RECEIVED.—Messrs. H. B. Eve, G. Mayall, A. Gofton, H. Taylor.

*The Lisburn Standard, The Sportsman, The Constitution, The County Express.*

Communications for the Editors to be addressed 20 Fulham Road, S.W.